REMARKS

Reconsideration and withdrawal of the restriction requirement are respectfully requested in view of the remarks herewith.

The November 4, 2005 Office Action called for restriction from among the following:

I. Claims 1-8, drawn to the method called "disease gene-discovery-by-positional-searching," classified in class 435, subclass 91.1, for example.

II-IV. Claims 1 and 2 are drawn to the coding sequences of SEQ ID NOs: 1, 5, and 14, classified in class 536, subclass 23.1, for example.

V-XVII. Claim 1 is drawn to the regulatory sequences of SEQ ID NOs: 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 21, and 22, classified in class 536, subclass 24.1, for example.

XVIII-XX. Claims 1 and 3 are drawn to the proteins whose sequence IDs are SEQ ID NO: 2 and amino acids 68-79 of SEQ ID NO: 2, SEQ ID NO: 6 and amino acids 20-51, and SEQ ID NO: 15 and amino acids 33-44 of SEQ ID NO: 15, classified in class 530, subclass 324, for example.

XXI-XXIII. Claim 4 is drawn to ELISA methods with recombinant antibodies that detect the proteins of amino acids 68-79 of SEQ ID NO: 2, amino acids 20-51 of SEQ ID NO: 6, and amino acids 33-44 of SEQ ID NO: 15, classified in class 435, subclass 7.1, for example.

XXIV-XXVI. Claim 5 is drawn to ELISA methods that detect endogenous antibodies that are capable of neutralizing the proteins of amino acids 68-79 of SEQ ID NO: 2, amino acids 20-51 of SEQ ID NO: 6, and amino acids 33-44 of SEQ ID NO: 15, classified in class 435, subclass 7.5, for example.

XXVII-XXIX. Claim 6 is drawn to antibodies that act against the protein sequences of amino acids 68-79 of SEQ ID NO: 2, amino acids 20-51 of SEQ ID NO: 6, and amino acids 33-44 of SEQ ID NO: 15, classified in class 424, subclass 139.1, for example.

XXX-XXXII. Claim 7 is drawn to methods of active vaccination to prevent and stop initiation and progression of Alzheimer's disease, wherein the vaccine includes the protein sequences of amino acids 68-79 of SEQ ID NO: 2, amino acids 20-51 of SEQ ID NO: 6, and amino acids 33-44 of SEQ ID NO: 15, classified in class 530, subclass 300, for example.

XXXIII-XXXV. Claims 8 and 9 are drawn to methods of passive immunization to prevent and stop initiation and progression of Alzheimer's disease, wherein the vaccine includes antibodies against the proteins of amino acids 68-79 of SEQ ID NO: 2, amino acids 20-51 of

SEQ ID NO: 6, and amino acids 33-44 of SEQ ID NO: 15, classified in class 424, subclass 130.1, for example.

XXXVI-XXXVIII. Claim 10 is drawn to anti-DNA antibodies directed against molecules of SEQ ID NOs: 7, 8, 9, 10, 11, 12, 1, 18, 19, 20, 21, and 22, classified in class 530, subclass 387.1, for example.

Group XXXIII is elected, with traverse, for further prosecution in this application. Applicants reserve the right to file divisional applications to non-elected subject matter. Reconsideration and withdrawal of the restriction requirement are respectfully requested in view of the remarks herewith.

As a traverse, it is noted that the MPEP lists two criteria for a proper restriction requirement. First, the inventions must be independent or distinct. MPEP § 803. Second, searching the additional inventions must constitute an undue burden on the examiner if restriction is not required. *Id.* The MPEP directs the examiner to search and examine an entire application "[i]f the search and examination of an entire application can be made without serious burden, ...even though it includes claims to distinct or independent inventions." *Id.*

The present invention is directed to nucleic acid and amino acid sequences encoding causative factors of the symptoms of Alzheimer's disease, Down syndrome and other neurodegenerative diseases and methods of using the same. It is respectfully submitted that any search for the methods of the Group I claims will certainly encompass references for the coding sequences of the Group II-IV claims, the regulatory sequences of the Group V-XVII claims, the proteins of the Group XVIII-XX claims, the methods of detecting the proteins of the Group XXI-XXIII, XXIV-XXVI and XXVII-XXIX claims, the methods of vaccination of the Group XXX-XXXII and XXXIII-XXXV claims and the antibodies of the Group XXXVI-XXXVIII claims. The groups are inextricably linked in that the compositions of all of the groups are nucleic acid and amino acid sequences encoding causative factors of the symptoms of Alzheimer's disease, Down syndrome and other neurodegenerative diseases and methods of using the same. Therefore, it is respectfully submitted that it would not place an unnecessary burden on the Examiner to search and examine of the groups together.

Furthermore, during the prosecution of the counterpart application in the European Patent Office, the examining division came to the conclusion that the claims were restricted to one invention. A copy of the communication and claims is attached hereto.

In the alternative, the rejoinder of Groups II-IV which are all classified in class 536, subclass 23.1, Groups V-XVII which are all classified in class 536, subclass 24.1, Groups XVIII-XX which are all classified in class 530, subclass 324, Groups XXI-XXIII which are all classified in class 435, subclass 7.1, Groups XXIV-XXVI which are all classified in class 435, subclass 7.5, Groups XXVII-XXIX which are all classified in class 424, subclass 139.1, Groups XXX-XXXII which are all classified in class 530, subclass 300, Groups XXXII-XXXV, which are all classified in class 424, subclass 130.1 or Groups XXXVI-XXXVIII which are all classified in class 530, subclass 387.1 is respectfully requested as it would not be an undue burden for the Examiner to search within the same class and subclass.

In view of the above, reconsideration and withdrawal of the restriction requirement is respectfully requested.

In summary, enforcing the present restriction requirement would result in inefficiencies and unnecessary expenditures by both the Applicants and the PTO, as well as extreme prejudice to Applicants (particularly in view of GATT, whereby a shortened patent term may result in any divisional applications filed). Restriction has not been shown to be proper, especially since it has been shown that the requisite showing of serious burden has not been made. Indeed, the search and examination of each Group would be likely to be co-extensive and, in any event, would involve such interrelated art that the search and examination of the entire application can be made without undue burden on the Examiner, especially as the claims of all Groups have identical classifications. All of the preceding, therefore, mitigate against restriction.

Consequently, reconsideration and withdrawal of the restriction requirement are respectfully requested.

CONCLUSION

In view of the remarks herein, reconsideration and withdrawal of the restriction requirement are requested.

Early and favorable consideration of the application on the merits, and early Allowance of the application are earnestly solicited.

Respectfully submitted,

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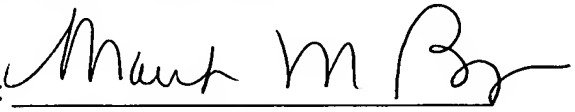
By: 

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Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire
BERGMANN, Johanna, E., et al

Dear Sirs

The examining division carefully revised the set of claims on file and came to the conclusion that the set of claims is restricted to one invention. Therefore you can disregard our communication under Rule 112 EPC dated 27 August 2003. For the inventions referred to in the International Search Report a divisional application may be filed.
The payment of the additional Search fees will be refunded in due course.
We apologize any inconvenience caused.

Yours sincerely

Zoglauer, Heike
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REGISTERED LETTER

EPO Form 2901 11.93 7053000 05/12/03

CONFIDENTIAL
VERTRAULICH

What is claimed

1. A method of obtaining disease-related polynucleotides comprising the steps of:
a) identifying a first gene closely related to a second gene genetically linked to the disease;
b) obtaining mRNA from a patient having the disease;
c) amplifying cDNA coding the first gene; and
d) isolating a unique cDNA from the amplified DNA.

2. The method according to claim 1 further comprising the step of translating the unique cDNA into a disease-related polypeptide.

3. A method of obtaining disease-related antibodies comprising administering the polypeptides according to claim 2 to an animal under conditions sufficient to obtain antibodies specific to the polypeptides and isolating the polypeptide-specific antibodies.

4. A method of screening for a disease or risk of the disease comprising screening patient samples for antibodies specific to the polypeptide according to claim 2.

5. A method of screening for a disease or risk of the disease comprising screening patient samples for mRNA encoding the polypeptide of claim 2.

6. An isolated polynucleotide comprising SEQ ID NO:1.

7. An isolated polynucleotide comprising SEQ ID NO:3.

8. An isolated polynucleotide comprising SEQ ID NO:4.

9. An isolated polynucleotide comprising SEQ ID NO:5.

10. An isolated polynucleotide comprising SEQ ID NO:6.

11. An isolated polynucleotide comprising SEQ ID NO:7.

12. An isolated polynucleotide comprising SEQ ID NO:8.

13. An isolated polynucleotide comprising SEQ ID NO:9.

14. An isolated peptide comprising SEQ ID NO:2, particularly amino acids 68-79.

15. Antibodies specific for polynucleotides complementary to polynucleotides of SEQ ID NO:1.

16. Antibodies specific for polypepetides of SEQ ID NO:2, particularly amino acids 68-79.

17. Antibodies specific for polypepetides of SEQ ID NO:2 particularly amino acids 55-79.

18. A method of detecting Alzheimer's disease or the risk thereof in a patient comprising determining whether the patient has antibodies specific for an isolated polypeptide selected from the group described in claims 16 and 17.

19. A method of detecting Alzheimer's disease or the risk thereof in a patient comprising determining whether the patient has antibodies specific for an isolated polynucleotide of any one of claims 16 and 17.

20. A method of treating and/or preventing Alzheimer's disease comprising administering to a patient in need thereof an amount of one or more polypeptides selected from SEQ ID NO:2, claim 16, and SEQ ID NO:2, claim 17, and in a manner sufficient to induce an immune response in the patient specific to the polypeptides administered.

21. A method of treating and/or preventing Alzheimer's disease comprising administering to a patient in need thereof an amount of one or more antibodies specific for polypeptides selected from SEQ ID NO:2, claim 16, and SEQ ID NO:2, claim 17, and in a manner sufficient to prevent, delay or attenuate the symptoms of Alzheimer's disease.

22. A method of treating and/or preventing Alzheimer's disease comprising administering to a patient in need thereof an amount of one or more polynucleotide inhibiting agents directed against the polynucleotides of claim 9, SEQ ID NO:4, claim 11, SEQ ID NO:6, claim 12, SEQ ID NO:7, claim 13, SEQ ID NO:8, claim 14, SEQ ID NO:9, in a manner sufficient to prevent or attenuate the expression of the polynucleotide of claim 6, SEQ ID NO:1.